RS-002, "PROCESSING APPLICATIONS FOR EARLY SITE PERMITS"

ATTACHMENT 2

2.1.1 SITE LOCATION AND DESCRIPTION

REVIEW RESPONSIBILITIES

Primary - Probabilistic Safety Assessment Branch (SPSB)

Secondary - Emergency Preparedness and Plant Support Branch (IEPB)

I. AREAS OF REVIEW

For this section of the safety assessment for an early site permit (ESP) application, site location is reviewed (1) as identified by latitude and longitude and by the UTM[1] coordinate system; (2) with respect to political subdivisions; and (3) with respect to prominent natural and man-made features of the area to ascertain the accuracy of the applicant's site safety assessment description and for use in independent reviews of the exclusion area authority and control (Section 2.1.2 of this review standard), the surrounding population (Section 2.1.3 of this review standard) and nearby man-made hazards (Section 2.2.3 of this review standard).

The site area which would contain the reactor or reactors of specified type (or falling within a plant parameter envelope [PPE]) and associated principal plant structures is reviewed to determine the distance from the proposed site of the reactor or reactors to boundary lines of the exclusion area, including the direction and distance from the reactor(s) to the nearest exclusion area boundary line. A scaled plot plan of the exclusion area, which permits distance measurements to the exclusion area boundary in each of the 22-1/2 degree segments centered on the 16 cardinal compass points, is reviewed. The location of a nuclear power plant or plants of specified type (or falling within a PPE) that might be constructed on the proposed site within the exclusion area is reviewed to identify potential release points and their distances to exclusion area boundary lines. The location and distance of a nuclear power plant or plants of specified type (or falling within a PPE) that might be constructed on the proposed site from highways, railways, and waterways which traverse or lie adjacent to the exclusion area are reviewed. The reviews should verify that the location and distances are adequately described to permit analyses (Section 2.2.3 of this review standard) of the possible effects of accidents on these transportation routes on a nuclear power plant or plants of specified type (or falling within a PPE) that might be constructed on the proposed site. The applicant may choose to provide orientation of structures if such information is available. The locations and descriptions of nearby industrial, military, and transportation facilities and routes should be noted and identified for review under Section 2.2.3.

The IEPB, as part of its primary review responsibility for Section 13.3 of this review standard, will determine whether the site location and description present any physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans.

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[1] Universal Transverse Mercator coordinate system as found on USGS topographical maps.

II. ACCEPTANCE CRITERIA

The acceptance criteria for site location and description are based on meeting the relevant requirements of 10 CFR 52.17 and 10 CFR Part 100, Subpart B. The relevant requirements of these regulations are:

1. 10 CFR Part 100, Subpart B as it relates to site acceptance being based on the consideration of factors relating to the proposed reactor design and the site characteristics.

2. 10 CFR 52.17 as it relates to the applicant submitting information needed for evaluating factors involving the use characteristics of the site environs.

The information submitted by the applicant is adequate and meets the 10 CFR 52.17 requirements if it satisfies the following criteria:

The site location, including the exclusion area and the proposed location of a nuclear power plant or plants of specified type (or falling within a PPE) that might be constructed on the proposed site, are described in sufficient detail to allow a determination (in Sections 2.1.2, 2.1.3, and 15.0 of this review standard) that 10 CFR Part 100 Subpart B is met.

Highways, railroads, and waterways which traverse the exclusion area are sufficiently distant from planned or likely locations of structures of a nuclear power plant or plants of specified type (or falling within a PPE) that might be constructed on the proposed site so that routine use of these routes is not likely to interfere with normal plant operation (Ref. 1).

Information included in this safety assessment section should allow two types of safety analyses to be conducted. The first addresses the radiological consequences in the unlikely event that a serious release of radioactive material should occur. The second addresses the effect that accidents on, or routine use of, routes on or near the site will have on the operation of a nuclear power plant or plants of specified type (or falling within a PPE) that might be constructed on the proposed site.

III. REVIEW PROCEDURES

Selection and emphasis of various aspects of the areas covered by this safety assessment section will be made by the reviewer on each case. The judgment on the areas to be given attention during the review is to be based on an inspection of the material presented, the similarity of the material to that recently reviewed on other nuclear power plants or sites, and whether items of special safety significance are involved.

The information in this section of the safety assessment forms the basis for evaluations performed in various other sections. The purpose of this review is to establish the validity of the basic data, to check the UTM coordinates to ensure that they include the zone number, and that the Northing and Easting are presented to within 100 meters. The latitude and longitude should be checked to ensure that they are expressed to the nearest second.

Cross-check the exclusion area distances with distances used in the accident analyses in safety assessment Section 15.0. Scale the map provided to check distances specified in the safety assessment and to determine the distance-direction relationships to exclusion area boundaries, roads, railways, waterways, and other significant features of the area.

If, in the reviewer's judgment, maps of larger scale are desirable, they may be obtained from the U.S. Geological Survey (USGS). The USGS map index should be consulted for the specific names of the 7-1/2 minute quadrangles that bracket the site area. If available, these maps provide topographic information in addition to details of prominent natural and man-made features in the site area. This information may be supplemented by updated information as available, e.g., aerial photographs or information obtained on the site visit. Check to determine that the plant location with respect to nearby roads, railways, and waterways is clearly shown. Check to see that there are no obvious ways in which transportation routes which traverse the exclusion area can interfere with normal plant operations.

Site Visit

A visit to the site under review permits a better understanding of the physical characteristics of the site and its relationship to the surrounding area. It permits the reviewer to gather information, independent of that supplied in the safety assessment, which is useful in confirming safety assessment data.

Site visits should be made after initial review of the site data in the safety assessment has been completed and the reviewer has become generally familiar with the site and surrounding areas. Since one of the purposes of the site visit is to discuss the preliminary review findings with the applicant, the reviewer should plan to be in the site area one or two days in advance of the scheduled meeting with the applicant. This will permit gathering information from visits to local offices of Federal, State, and county governments, industries, military facilities, etc. Specific visits to these offices should be made on the basis of the particular site characteristics and is left to the judgment of the individual reviewer. The reviewer should note that some of the local offices may have been contacted by the environmental reviewer. Generally, information sought by the respective reviewers is similar in scope but will differ in emphasis. To avoid duplication of visits to local officials, the reviewer should contact the Project Manager and, where feasible, arrange for a joint visit to those local offices in which there is a common interest. Sources investigated should include such State and local agencies as those concerned with population and land use and land use controls (zoning boards). County engineers are sources of information on public roads and traffic volumes. Local Councils of Government may have information on population growth, proposed new industries or transportation routes. Information sought should encompass, whenever possible, data in support of the review procedures for safety assessment Sections 2.1.3, 2.2.1, 2.2.2, and 2.2.3.

If information gathered indicates the need for clarification of data contained in the safety assessment, this should be discussed with the applicant in the subsequent meeting on preliminary review findings.

IV. EVALUATION FINDINGS

The reviewer verifies that the information submitted by the applicant is in accordance with 10 CFR 52.17 requirements so that compliance with 10 CFR Part 100, Subpart B can be evaluated.

Summary descriptions of the site location, the site itself, and transportation routes on or near the site will be prepared for the staff safety evaluation report. Any deficiencies of site parameters with respect to a nuclear power plant or plants of specified type (or falling within a PPE) that might be constructed on the proposed site will be noted.

V. IMPLEMENTATION

The following is intended to provide guidance to applicants and licensees regarding the NRC staff's plans for using this section of this review standard.

This section will be used by the staff when performing safety evaluations of ESP applications submitted by applicants pursuant to 10 CFR Part 52 (Ref. 2). Except in those cases in which the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the method described herein will be used by the staff in its evaluation of conformance with Commission regulations.

VI. REFERENCES

1. 10 CFR Part 100, "Reactor Site Criteria."

2. 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants."